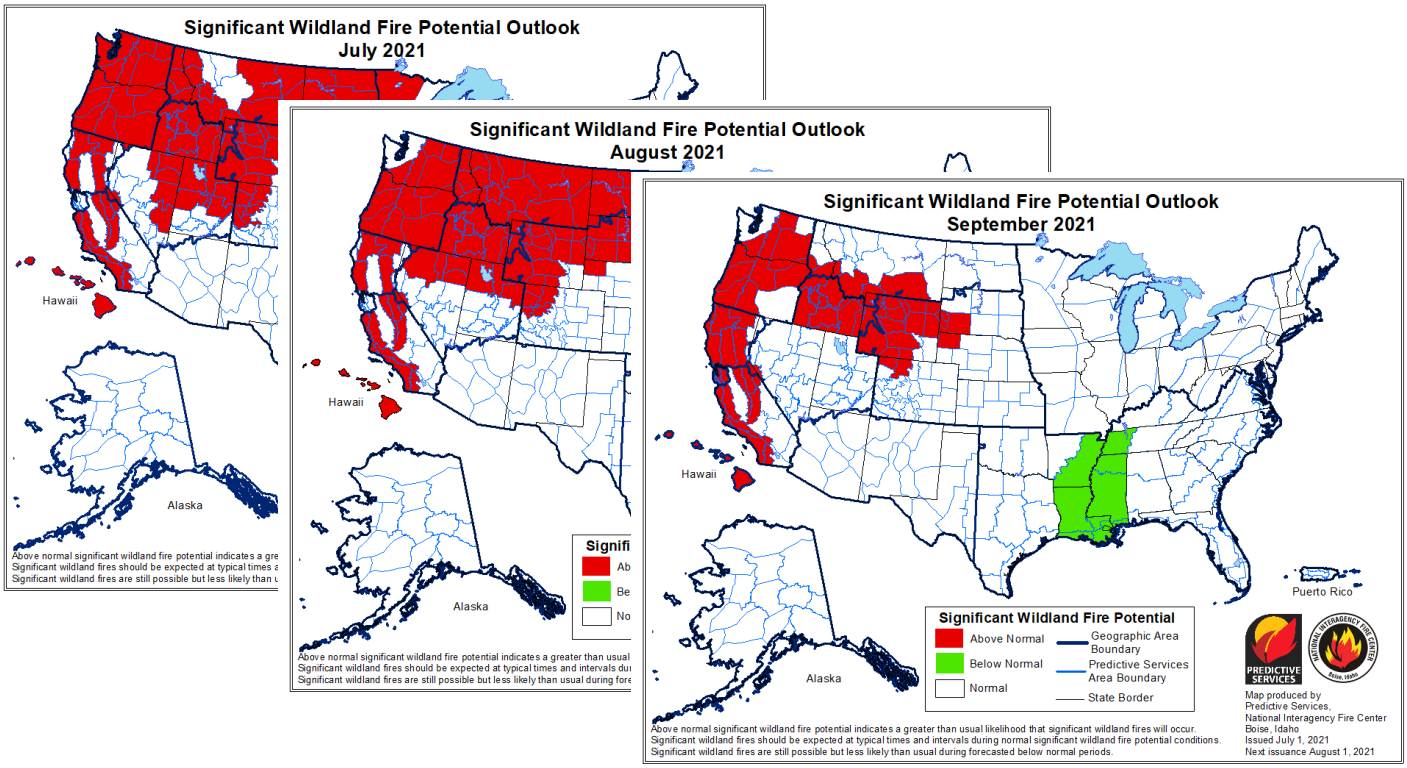
July 2021 - Wildland Fire Outlook

July 2, 2021



Significant Wildland Fire Potential -- July, August, September 2021 (July 1 2021, National Interagency Fire Center).
https://www.predictiveservices.nifc.gov/outlooks/outlooks.htm.

SUMMARY

The Teton Interagency Dispatch area returned to dry conditions in June after a wetter than average May (the result of a few days of rain in most areas. The area is in moderate to severe drought conditions and temperature and precipitation outlooks for the summer are for drier and warmer than normal conditions. For July through September, analyses and outlooks indicate significant wildland fire potential.

- On July 1, Bridger-Teton National Forest / Grand Teton National Park entered **Stage 1 Fire Restrictions.**
- **Above Normal fire potential** for July-September, per the Great Basin Coordination Center's monthly outlook: https://gacc.nifc.gov/gbcc/predictive/docs/monthly.pdf
- Daily GBCC Fire Potential Briefing and related outlooks: https://gacc.nifc.gov/gbcc/outlooks.php

During an average fire season, based on a 20-year fire history from 2001-2020, Bridger-Teton National Forest will average 52 unplanned fires (32 natural starts per year, and 20 human-caused fires) for an average of 16,522 acres per year. Grand Teton National Park will average 10 unplanned fires (six natural starts per year, and four human-caused fires) for an average of 1332 acres per year.

Current information on fire conditions, indices and fire activity is at www.tetonfires.com. Local, regional and national outlooks are at https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/predictive-services/outlooks.

1. 30-day and 60-day Temperatures

WARMER EARLY SUMMER. After a cooler than normal winter, the past 30 and 60 days recorded a much warmer than normal early summer. These high temperatures may affect green-up intensity and timing and support the continued availability of dead fuels for fire ignition and spread.

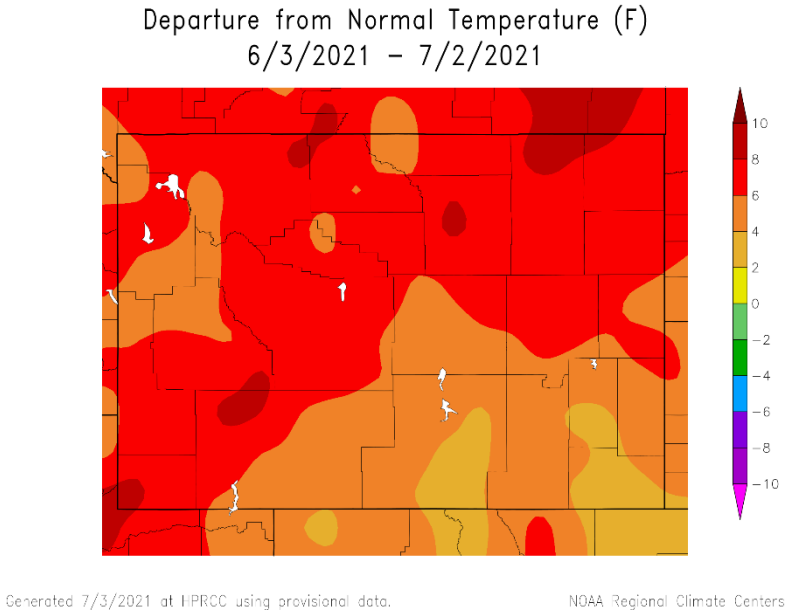


Figure 1a. Departure from Normal Temperature, Wyoming, prior 30 days through 07/02/2021. *https://hprcc.unl.edu/products/maps/acis/hprcc/wy/30dTDeptHPRCC-WY.png.*

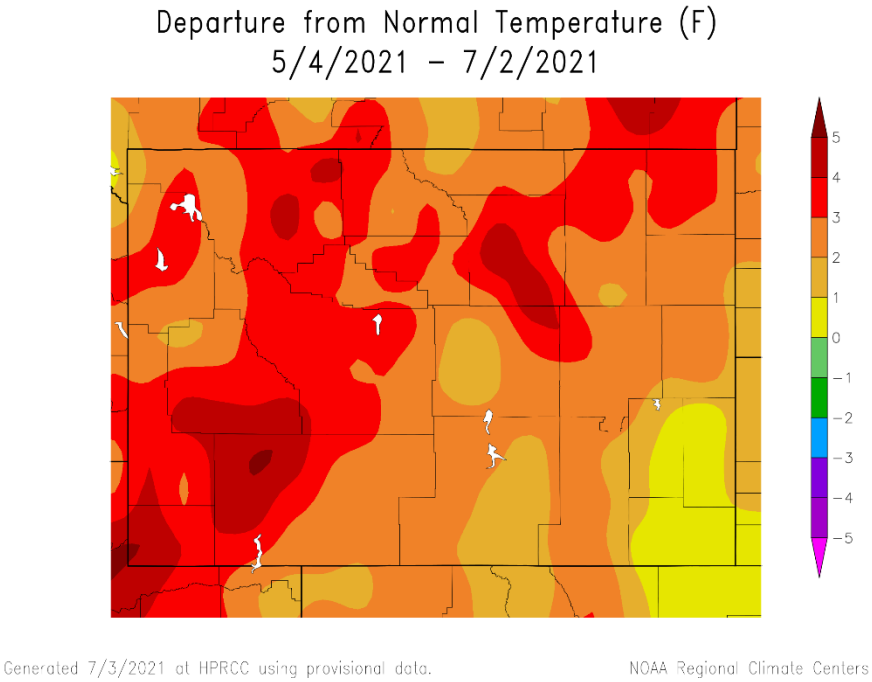


Figure 1b. 60-Day Departure from Normal Temperature, Wyoming, ending July 2, 2021. *https://hprcc.unl.edu/products/maps/acis/hprcc/wy/60dTDeptHPRCC-WY.png*

2. Precipitation

Area precipitation for the past 30 and 90 days demonstrates the effect of short- and long-term moisture deficits for the area – with 30-day deficit (Figure 2a) drier when compared to the 90-day period (Figure 2b).

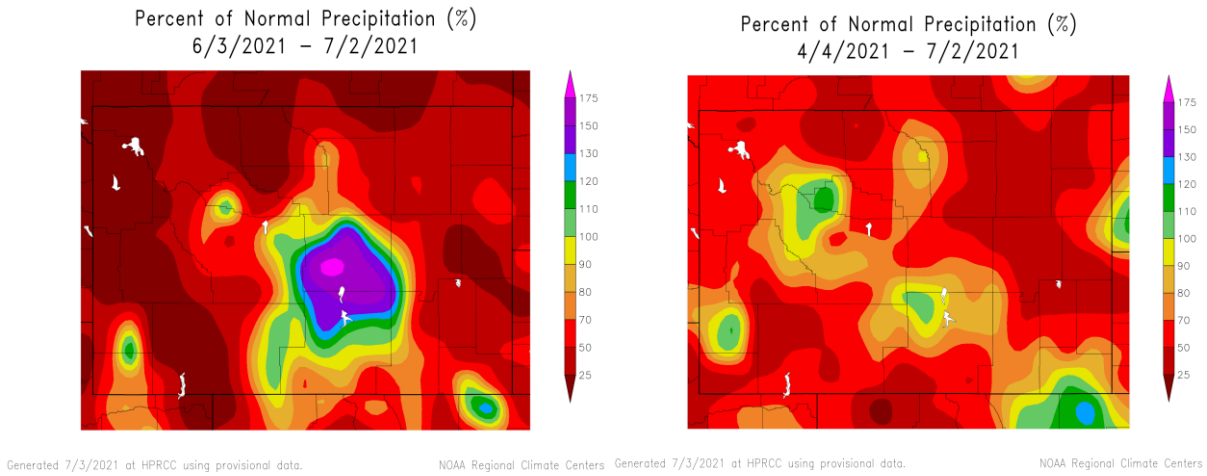
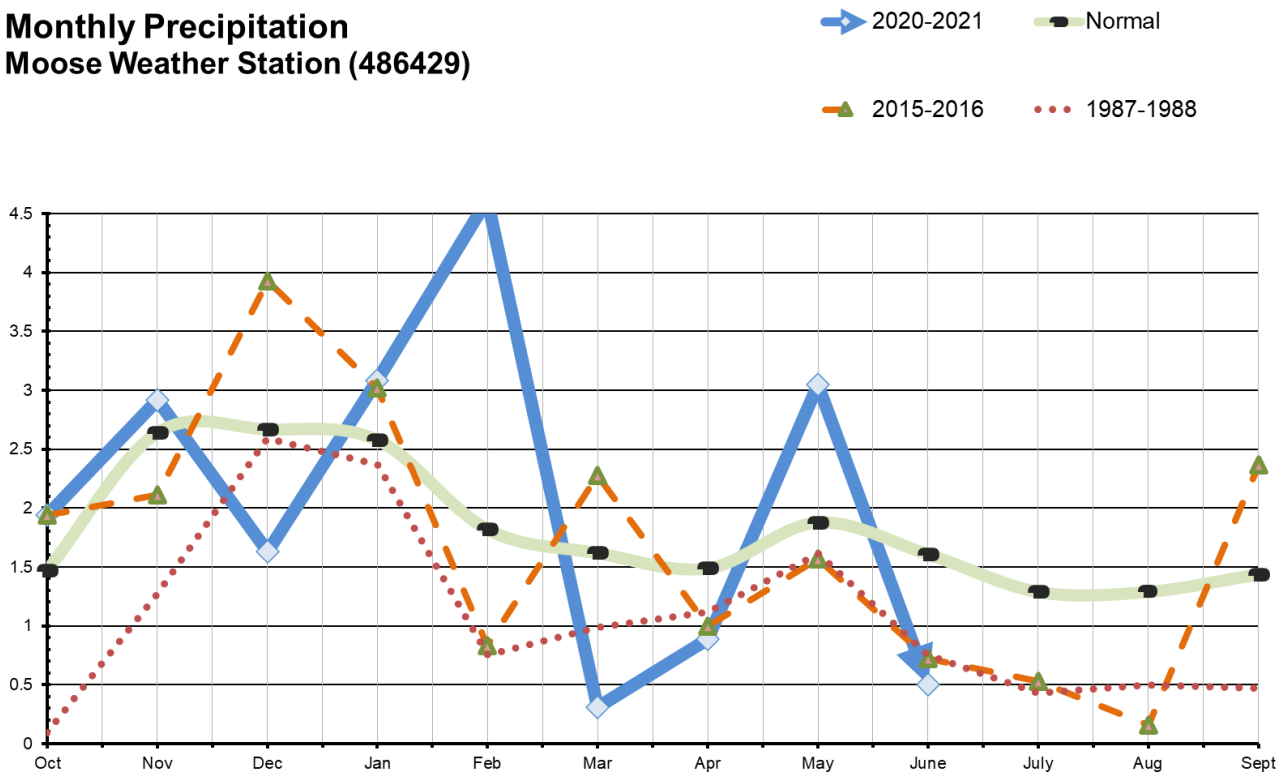


Figure 2a (left). *Wyoming, Percent of Normal Precipitation for the past 30 days. https://hprcc.unl.edu/products/maps/acis/subrgn/WY/30dPNormWY.png.* ***Figure 2b (right).*** *Percent of Normal Precipitation for the past 90 days. https://hprcc.unl.edu/products/maps/acis/subrgn/WY/90dPNormWY.png.*

Precipitation tracking at the Moose 1 NNE WY Climate Weather Station -- the automated Climate Reference Station in the Applied Climate Information System in the dispatch area -- is representative for lower elevation sites in Grand Teton National Park and some North Zone sites. The station recorded 107% of normal for water year-to-date, with three of the past six months recording below-normal and three above-normal precipitation. Though May was significantly wetter than normal, precipitation for the past three months is 89% of normal and June received 31% of normal for 30-year precipitation norms.

Table 2 - Graph and Table: Precipitation, Moose Weather Station (Grand Teton National Park).



		Dec	Jan	Feb	Mar	Apr	May	June	YTD total
Precipitation	1987-88	2.59	2.37	0.75	0.99	1.12	1.61	0.75	11.54
(inches)	1999-00	2.03	2.27	5.04	1.03	0.4	1.38	0.59	13.49
	2015-16	3.93	3.02	0.83	2.28	1	1.57	0.72	17.4
	2019-20	1.62	1.49	1.88	2.58	1.82	1.62	2.9	20.39
	Normal	1.62	1.49	1.88	2.58	1.82	1.62	1.61	17.78
	2020-21	**1.63**	**3.08**	**4.62**	**0.31**	**0.89**	**3.06**	**0.5**	**18.94**
Percent of NORMAL	1987-88	102%	92%	40%	63%	75%	84%	47%	65%
	1999-00	80%	88%	267%	66%	27%	72%	37%	76%
	2015-16	147%	117%	46%	141%	67%	84%	45%	98%
	2019-20	81%	159%	130%	150%	187%	81%	180%	115%
	2020-21	**61%**	**119%**	**254%**	**19%**	**60%**	**162%**	**31%**	**107%**

3. Drought Monitor

The current drought map for the U.S. West shows 98% of the West with drought conditions. In Wyoming, 98% of the state exhibits some level of drought conditions, compared to 74% exhibiting drought conditions at this time in 2020. With the warmer and drier conditions forecast for mid- and late-summer, this drought is likely to intensify and increase fuel availability in 1000-hour fuels (downed logs), fine dead fuels and live fuels. Soil moisture outlooks also indicate continued drought impacts.

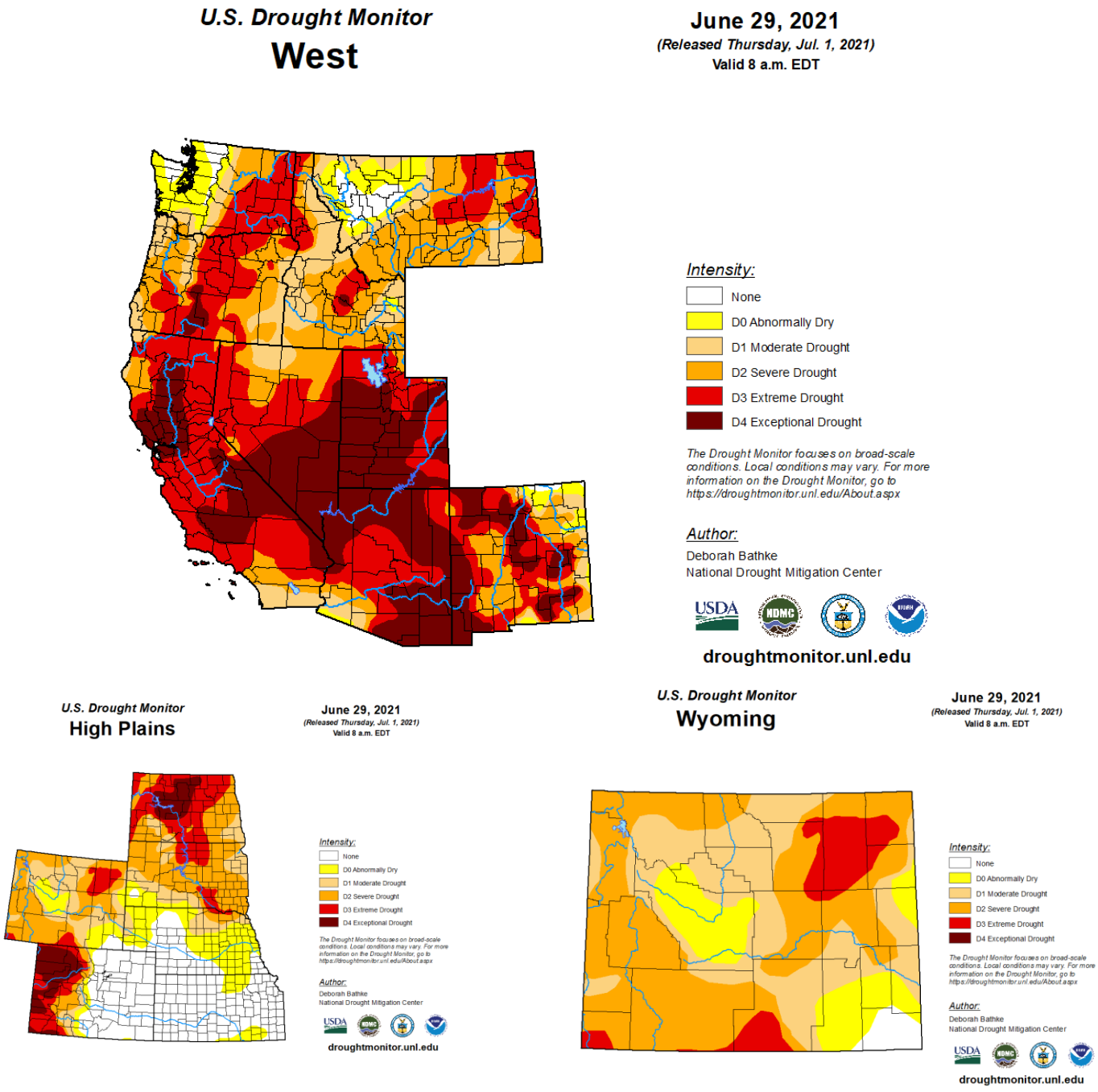


Figure 3a. U.S. Drought Monitor – West. https://droughtmonitor.unl.edu/data/png/20210629/20210629_west_text.png.

Figure 3b. U.S. Drought Monitor – USDA Northern Plains Climate Hub, current drought. High Plains | U.S. Drought Monitor (unl.edu). *Figure 3c (right). U.S. Drought Monitor – Wyoming – June 29, 2021.* Wyoming | U.S. Drought Monitor (unl.edu)

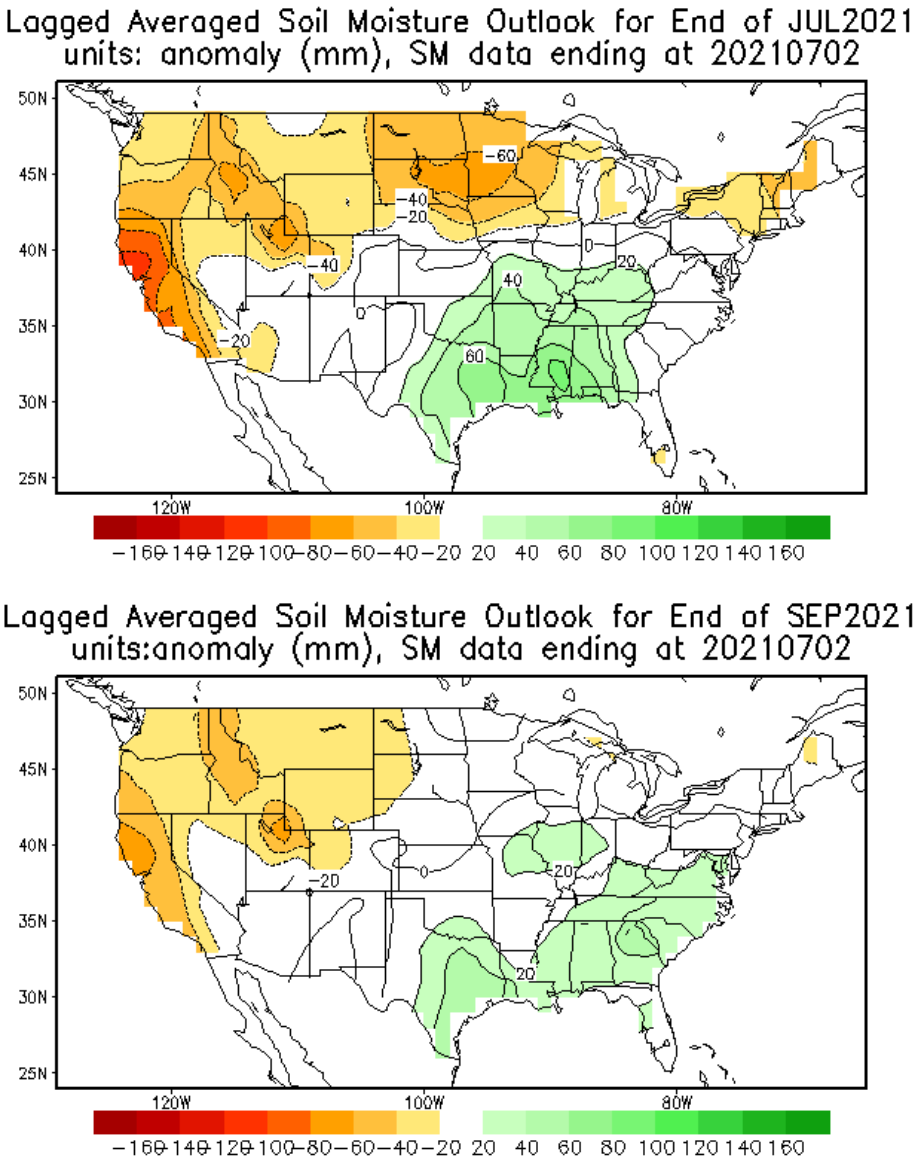


Figure 3d (above). Soil Moisture Outlook for end of July and September, 2021.
https://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Outlook/CAS/SM.shtml

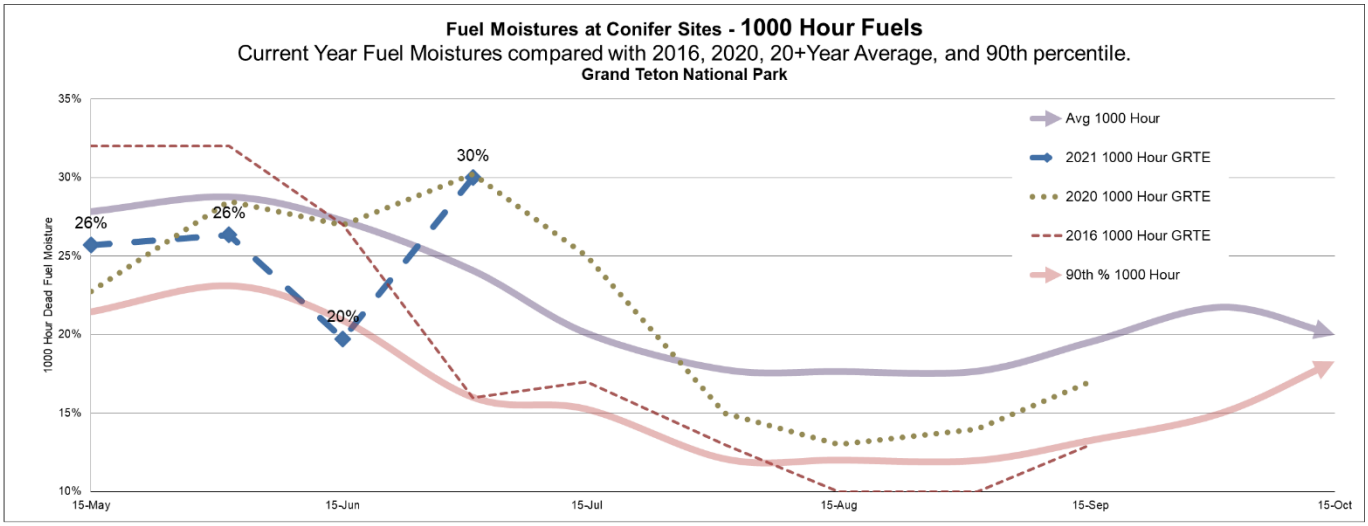
4. Fuel Moisture

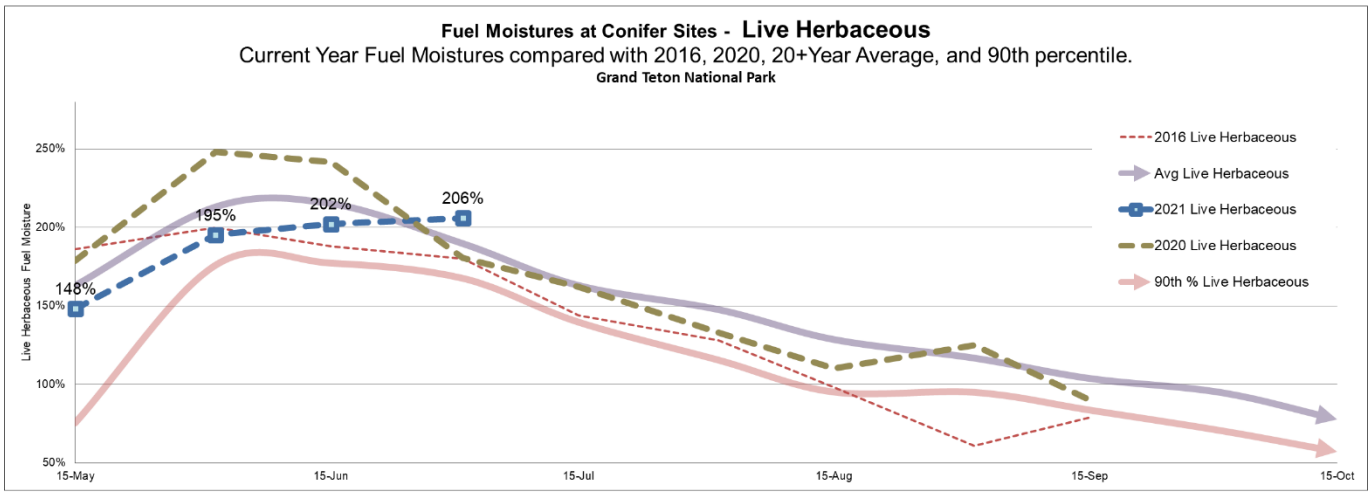
Sampling in Bridger-Teton National Forest and Grand Teton National Park show green-up occurring at a typical or slightly drier rate, with site variations.

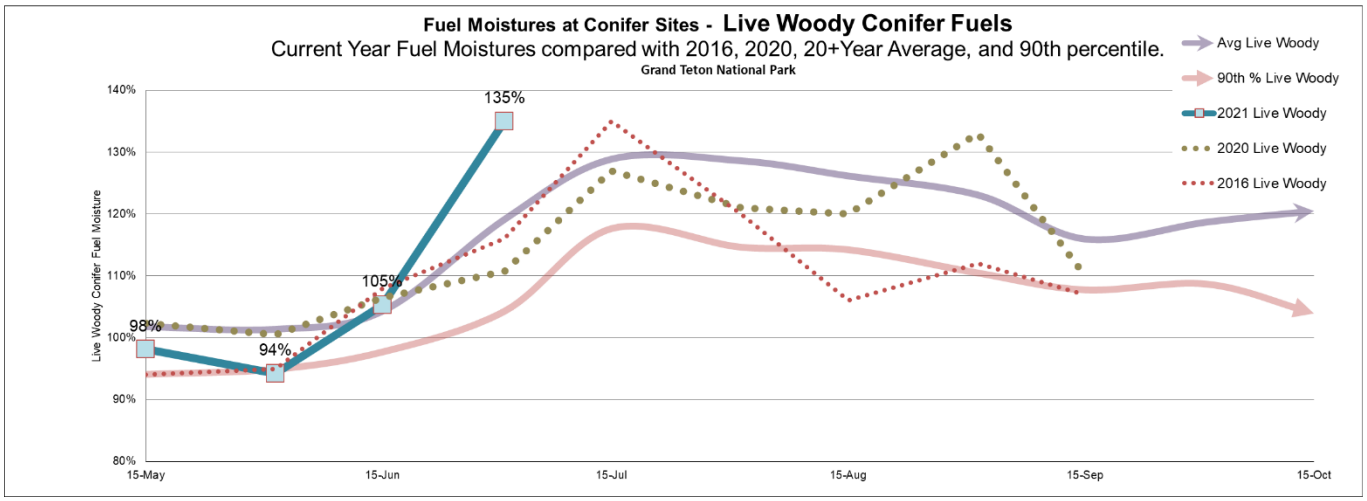
SITE TYPE	FUEL TYPE	East Zone BTNF	West Zone BTNF	North Zone BTNF	Grand Teton NP
Sagebrush	LH Grass				99%
	LH Sagebrush	144%	192%	166%	162%
Conifer	LH Grass			209%	206%
	LW Lodgepole	91%	100%	102%	135%
	LW Fir (Douglas/Subalpine)		SF: 90%	DF:162% SF: 108%	DF: 137%
	1000 Hour Dead	11%	11%	18%	30%

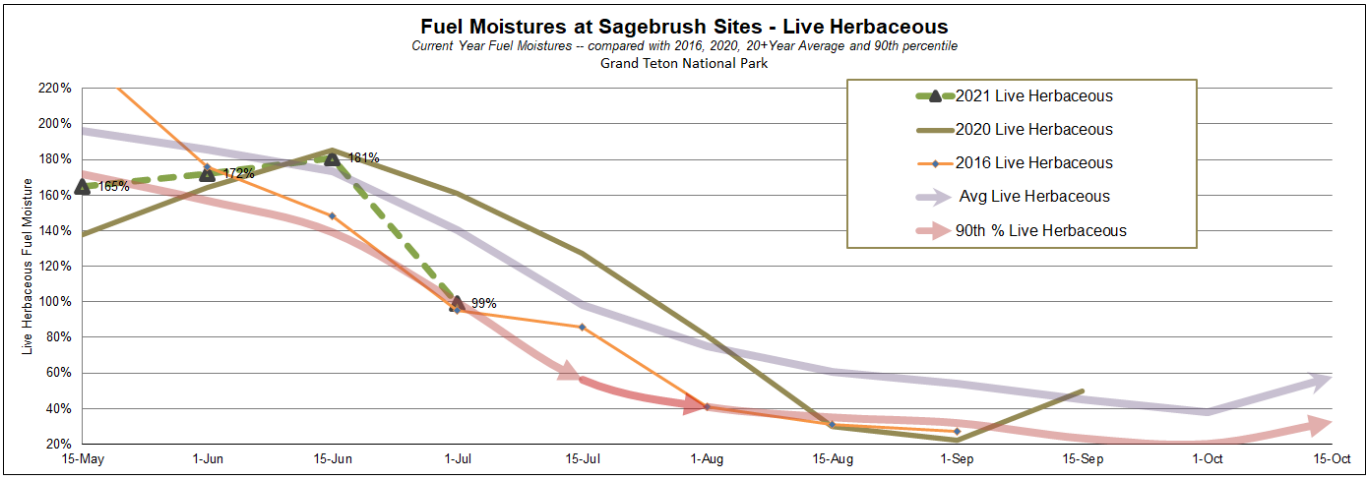
Additional fuel moisture data is available at the National Fuel Moisture Database: [Current Fuel moistures in Bridger-Teton NF and Grand Teton NP].

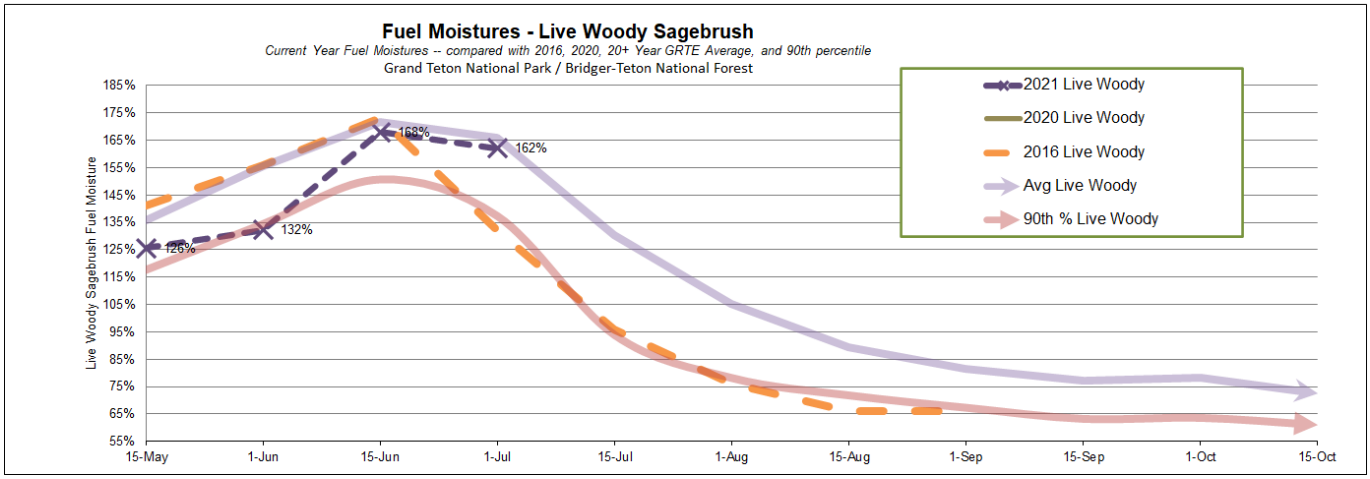
At long-term sampling stations in Grand Teton National Park, the initial growing season was drier than normal in sagebrush and conifer sites, with a return to normal fuel moistures for late June/early July. This green-up may decline as the impact of a warm-dry mid-summer period progresses.





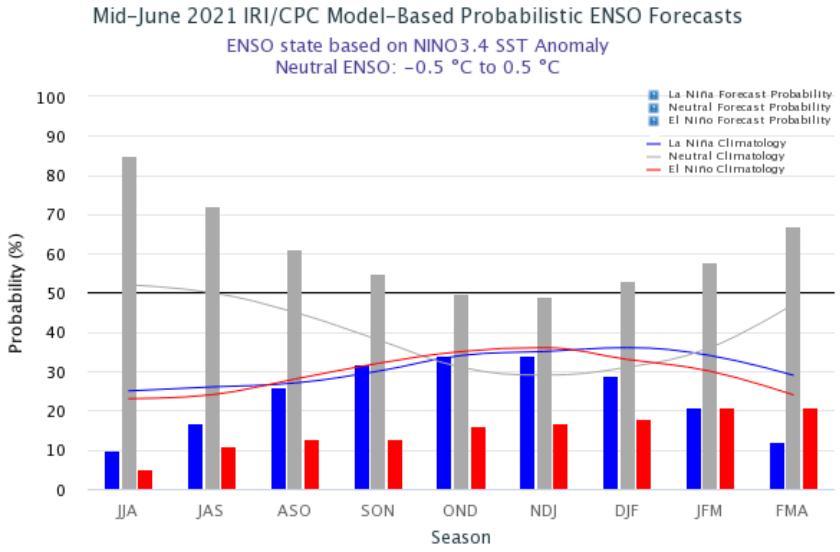






5. El Niño / La Niña / ENSO-Southern Oscillation)

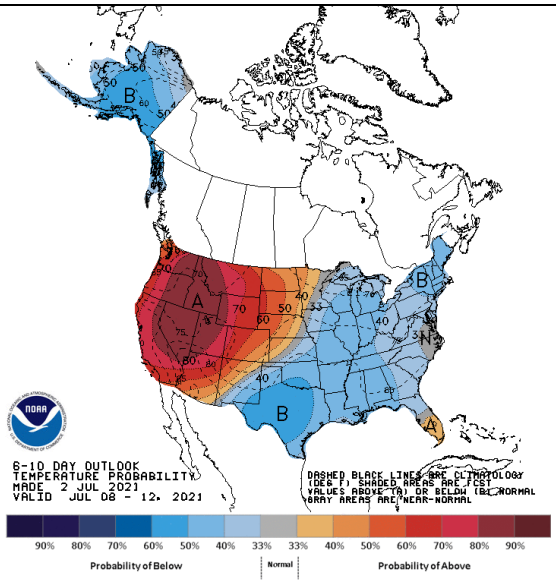
The mid-month ENSO Forecasts (Figure 5 below - [IRI – International Research Institute for Climate and Society | Quick Look (columbia.edu)]) tracks *El Niño* (warm) and *La Niña* (cool) events in the tropical Pacific. ENSO neutral conditions are forecast to continue through fall. In some years, this may lead to climatical norms, but this season outlooks call for dry-warm conditions and drought impacts.



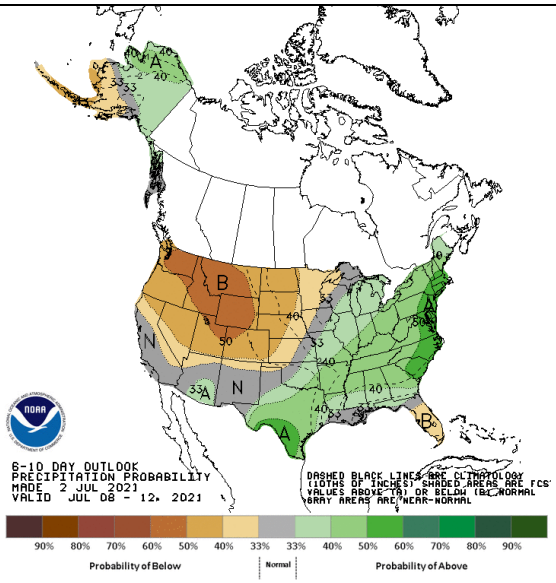
Current *ENSO* neutral conditions will likely continue through summer 2021 (85% chance for ENSO neutral for June-August 2021). By October-November-December 2021, the ratio of probabilities trend between neutral and a return to *La Niña* conditions next winter.

6. Temperature and Precipitation Outlooks

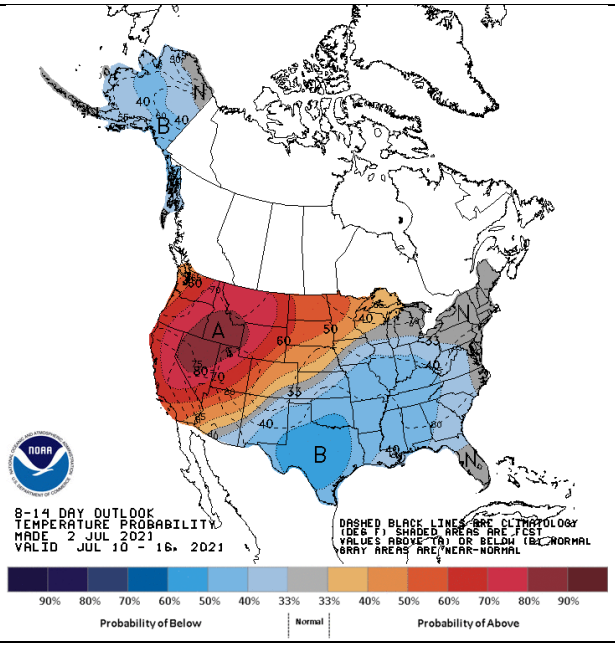
Most outlooks call for warmer temperatures and lower than normal precipitation for the summer and into fall.



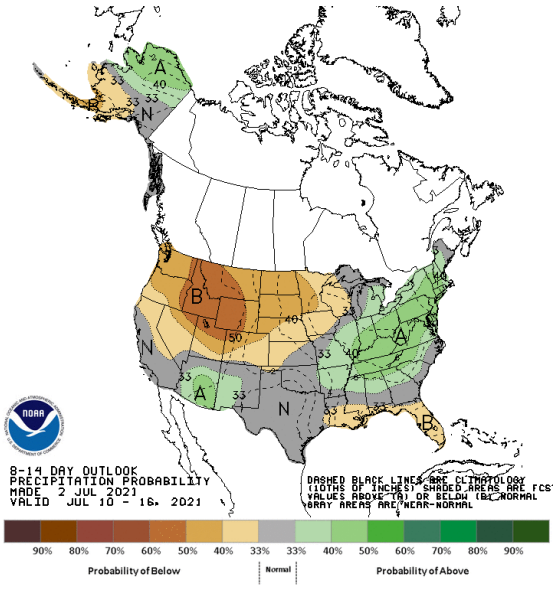
[6-10 Day Temperature Outlook]



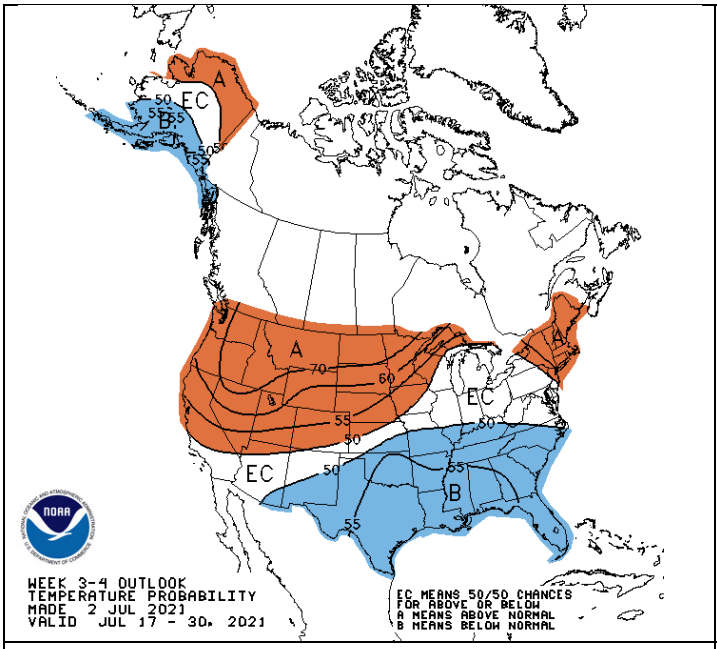
[6-10 Day Precipitation Outlook]



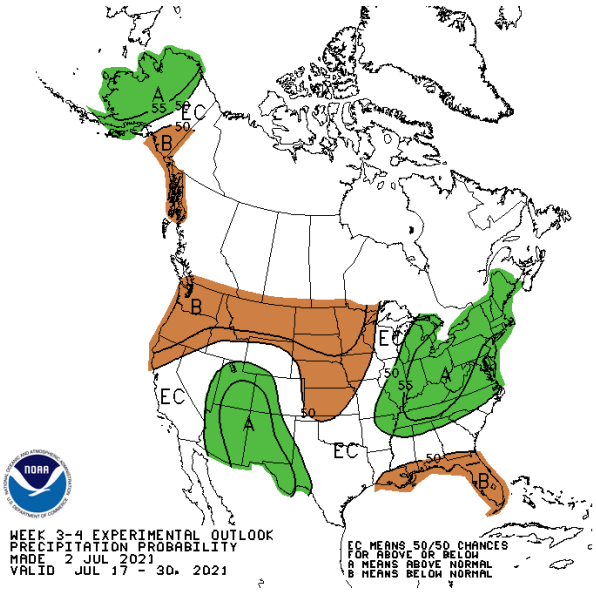
[8-14 Day Temperature Outlook]



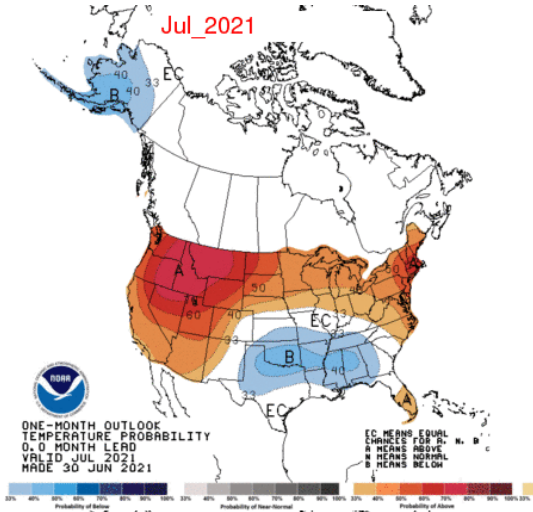
[8-14 Day Precipitation Outlook]



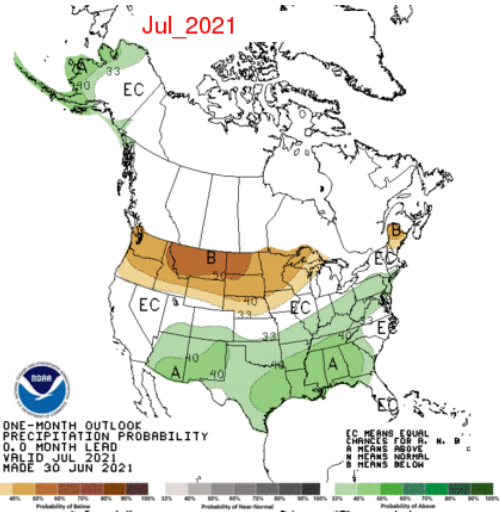
[3-4 Week Temperature Outlook]



[3-4 Week Precipitation Outlook]



Temperature



Precipitation

GEOGRAPHIC AREA OUTLOOKS

The Teton Area fire zone is within the Great Basin Geographic Area. Fire seasons in our zone also track with similar conditions in adjacent areas within the Rocky Mountain and Northern Rockies geographic areas, which converge within the Greater Yellowstone Area (GYA) and share common trends of fire activity. The season outlooks excerpted below support an outlook for normal fire activity in the Teton Interagency Dispatch area, with potential for above-normal fire activity in July in the eastern Great Basin, transitioning in August to above normal fire activity in the northern and western areas of the Great Basin Geographic Area.

Excerpts of National and Regional Outlooks from "National Wildland Significant Fire Potential Outlook" (July 1, 2021, NIFC Predictive Services). http://www.nifc.gov/nicc/predictive/outlooks/monthly_seasonal_outlook.pdf.

National – Executive Summary (excerpts)

Fire activity increased significantly across the West during June. Most of the significant fire activity was in the Southwest, Colorado, Utah, and Montana through mid-June with increasing fire activity across portions of California in mid to late June. The national preparedness level increased to four on June 22, the second earliest occurrence since 1990.

Drought expanded and intensified over the West with more than 90% of the West now in drought. More than half of the West is in the highest two categories of drought. Numerous all-time record high temperatures were set in the Pacific Northwest, northern Great Basin, and Northern Rockies at the end of June as part of a historical heat wave. The first surge of monsoonal moisture arrived in the Southwest, Colorado, and southern Great Basin during the last few days of June.

Climate and Fire Potential Outlooks

Climate outlooks indicate warmer than normal conditions are likely for much of the CONUS, especially the West, through summer. Much of the Rockies and the northern half of the West are also likely to have drier than normal conditions through September. Near normal precipitation is likely with the Southwest Monsoon in July, which should help alleviate drought conditions and significant fire activity, but drought is likely to expand and intensify across much of the West through the summer.

- Above normal significant fire potential will expand northward into the Great Basin and Rocky Mountain Geographic Areas through August with areas closer to the monsoon likely returning to near normal significant fire potential in July and August.
- Most of the Pacific Northwest, Northern Rockies, and northern Great Basin are expected to have above normal significant fire potential in July and August with areas beginning to return to normal significant fire potential in September and October.
- Mountains and foothills in California are forecast to have above normal significant fire potential through September; areas prone to offshore winds retain above normal potential through October

Great Basin

Above Significant wildfire potential is expected to increase through August from south to north, especially across the eastern Great Basin in July before monsoon moisture moves north, then over the northern half of the Great Basin in August, possibly lasting into September. Mid and higher elevations of the Sierra Front are forecast to have above normal fire potential from July through September due to lower than normal snowpack and significant long-term severe to exceptional drought.

Some areas of southern and eastern Nevada into western Utah and the Arizona Strip have carryover fine fuels that will bring above normal potential to lower elevations. Fire potential is expected to decrease

throughout July in the far southern Great Basin as the monsoon develops. Monsoon moisture may diminish early this year with warmer and drier conditions reemerging keeping above normal fire potential across Idaho, Wyoming, far northern and western Nevada, northern Utah, and the Sierra Front into September. Lower confidence exists toward the end of the outlook period.

Great Basin Coordination Center – Seasonal Outlook for June-September 2020 (excerpt).

https://gacc.nifc.gov/gbcc/predictive/docs/monthly.pdf

Over the last 30 days precipitation has been well below normal across much of the Great Basin and near normal over parts of Northern Nevada, Eastern Idaho and Wyoming. Temperatures have been above normal over easter, southern and western areas and just below normal over parts of Northern Nevada and Central Idaho. Periods of windy conditions, coupled with the dry fuels spread a few large fires the last 30 days over southern and eastern Nevada, northern Utah and even into Idaho. Some of the larger fires were the Cherrywood and Wilson Creek in Nevada. The water year precipitation, dating back to October 1, 2020 remains well below normal in most areas. Only portions of Western and Eastern Idaho, Wyoming and Northwest Nevada fared slightly better with precipitation 70-80% of normal. ERCs have now increased to above normal in all areas due to late May hot and dry conditions, with record high ERCs remaining across most of the southern half of the Great Basin.

Fire potential increasing. Fire potential will continue to increase with above normal fire potential in June in Utah and Eastern Nevada, spreading north into Idaho, Wyoming and the higher elevations of the Sierra Front by July and August. Warmer and drier conditions may be an issue in the north and west still in September.

CURRENT FIRE ACTIVITY

Teton Interagency Dispatch Center

https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/predictive-services/intelligence

Early-to-mid season wildland fire activity is typically limited to a period after snowmelt and prior to extensive green-up. Fire activity is increasing this season with limited acres burned.

80 Eighty abandoned non-escape campfires have been reported to date this year compared to 27 at this time last year and 43 in 2019.

Stage 1 Fire Restrictions went into effect for Bridger-Teton National Forest and Grand Teton National Park on July 1, 2021. Restrictions | Teton Interagency Fire (nifc.gov)

Year-to-Date Fire Activity for Dispatch Center response zones, July 2, 2021.
https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/sites/default/files/site-files/2021%20Fire%20Numbers%20and%20Stats.xlsx

Teton Interagency Fire Management Area Totals	Human Fires	Human Acres	Natural Fires	Natural Acres	RX Fires	RX Acres	Abandoned Non-escape Campfires
	7	3.4	1	0.2	10	1918	80

Selected Sources

- Precipitation Tracking: https://water.weather.gov/precip/
- Precipitation Tracking focused on Snotel sites, Wyoming (beta site)
- Climate Prediction Center, Three-Month Outlooks: https://www.cpc.ncep.noaa.gov/products/predictions/90day/
- Drought.gov Portal / Fire: https://www.drought.gov/drought/data-maps-tools/fire
- Drought.gov Portal / Wyoming: https://www.drought.gov/states/wyoming
- Intermountain West Climate Dashboard: https://wwa.colorado.edu/climate/dashboard.html
- Regional outlooks from "National Wildland Significant Fire Potential Outlook" (first of each month during fire season, NIFC Predictive Services): https://www.nifc.gov/nicc/predictive/outlooks/monthly_seasonal_outlook.pdf.
- Great Basin Area – Predictive Services/Outlooks: https://gacc.nifc.gov/gbcc/outlooks.php.
- Rocky Mountain Area – Predictive Services/Outlooks: https://gacc.nifc.gov/rmcc/outlooks1.php.
- Teton Interagency Dispatch: www.tetonfires.com / https://gacc.nifc.gov/gbcc/dispatch/wy-tdc/home/.

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